Antenna Specification for Approval

Customer Name: _____

Product Name: Action Camera EK7000

Product Name: WIFI ANT

Part NO.: EK7000

Write By: _____

Issued Date: 2023-08-28

R&D Dept	Business Dept	Approved By

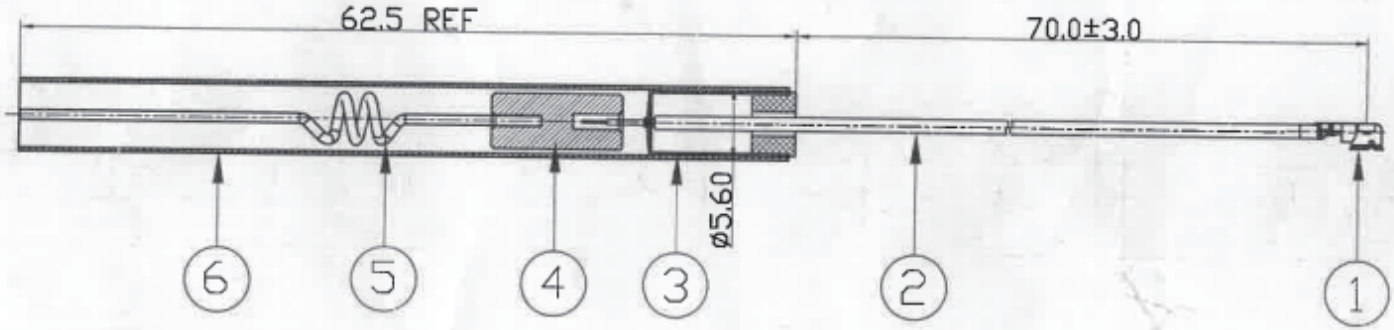
R&D Dept	Engineer Dept	Approval

Product Specification

A. Electrical Characteristics	
Frequency	**2400 MHz ~2500 MHz**
VSWR	**<3.0 @ 2400 MHz ~ 2500 MHz**
Efficiency	**>30%**
Impedance	**50 Ohm**
Polarization	**Linear**
Gain	**-2DB**
B. Material & Mechanical Characteristics	
Material of Radiator	**Cu**
Cable Type	
Connector Type	
Dimension	
C. Environmental	
Operation Temperature	**- 30 ˚C ~ + 80 ˚C**
Storage Temperature	**- 30 ˚C ~ + 85 ˚C**

RoHS
Compatible

SIGN	DATE	DESCRIPTION	APPROVER
A			
A			
A			



Note:
1. Dimension: Take * is the important dimension
2. Tolerance: Unmarked tolerance refer to the standard tolerance please

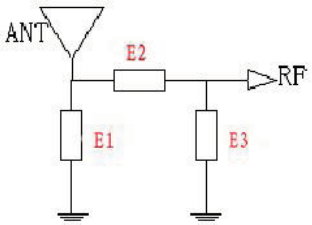
No.	Part Number	Descrlption	Material	Finished	Q'ty
6	HSTUBE-006T	HST	EVA	L=62	1
5	SP-430842	Spring	Cu	Ø0.8*Ø4.3*42.5	1
4	ANT60-45105N	Tube	Zn Alloy	Ø4.5*10.5	1
3	ASM-TUBE-521216S-02	铜管+定位塞	Cu+POM	Ø5.2*12.5mm	1
2	CB-137BS	Cable		Ø1.37 Black	1
1	CR-137	MINI CONN	Cu		1

Shenzhen unity wireless technology co., ltd

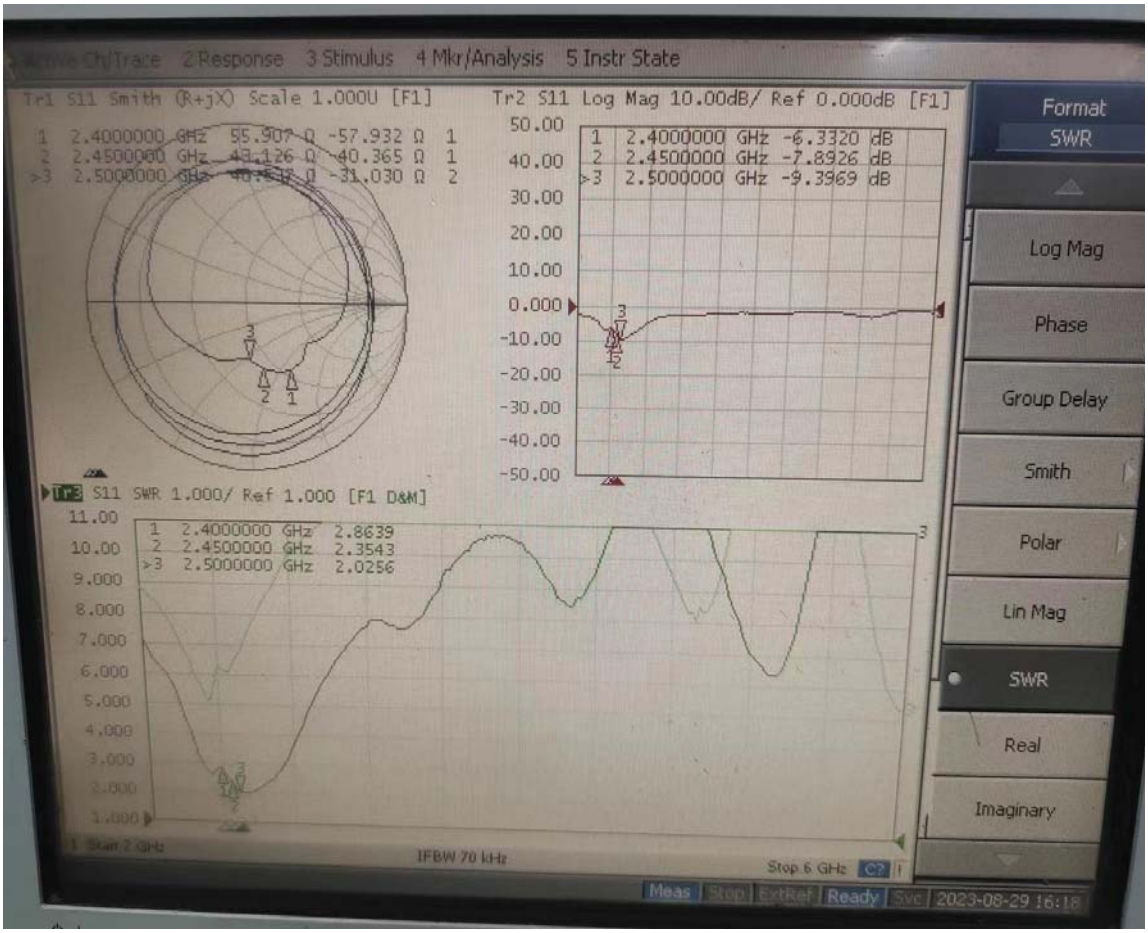
Address: 4th Floor, Building A6, Dongfang Jianfu Yusheng Industrial Zone, Xixiang, Bao'an District, Shenzhen
Tel: 0755-23285621 Fax: 0755-23285621

1. Antenna Matching

WIFI	E1	E2	E3
	N/A	0 Ω	N/A



2. Antenna Passive S11 Parameters



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Antenna passive test data

Freq (MHz)	Effi (%)	Gain (dBi)
2400	34	-1.65
2410	30.8	-2.09
2420	32.97	-1.9
2430	33.79	-1.78
2440	37.77	-1.28
2450	32.95	-0.74
2460	31.65	-0.83
2470	31.54	-0.89
2480	30.96	-0.7
2490	33.48	-0.42
2500	31.35	-0.58

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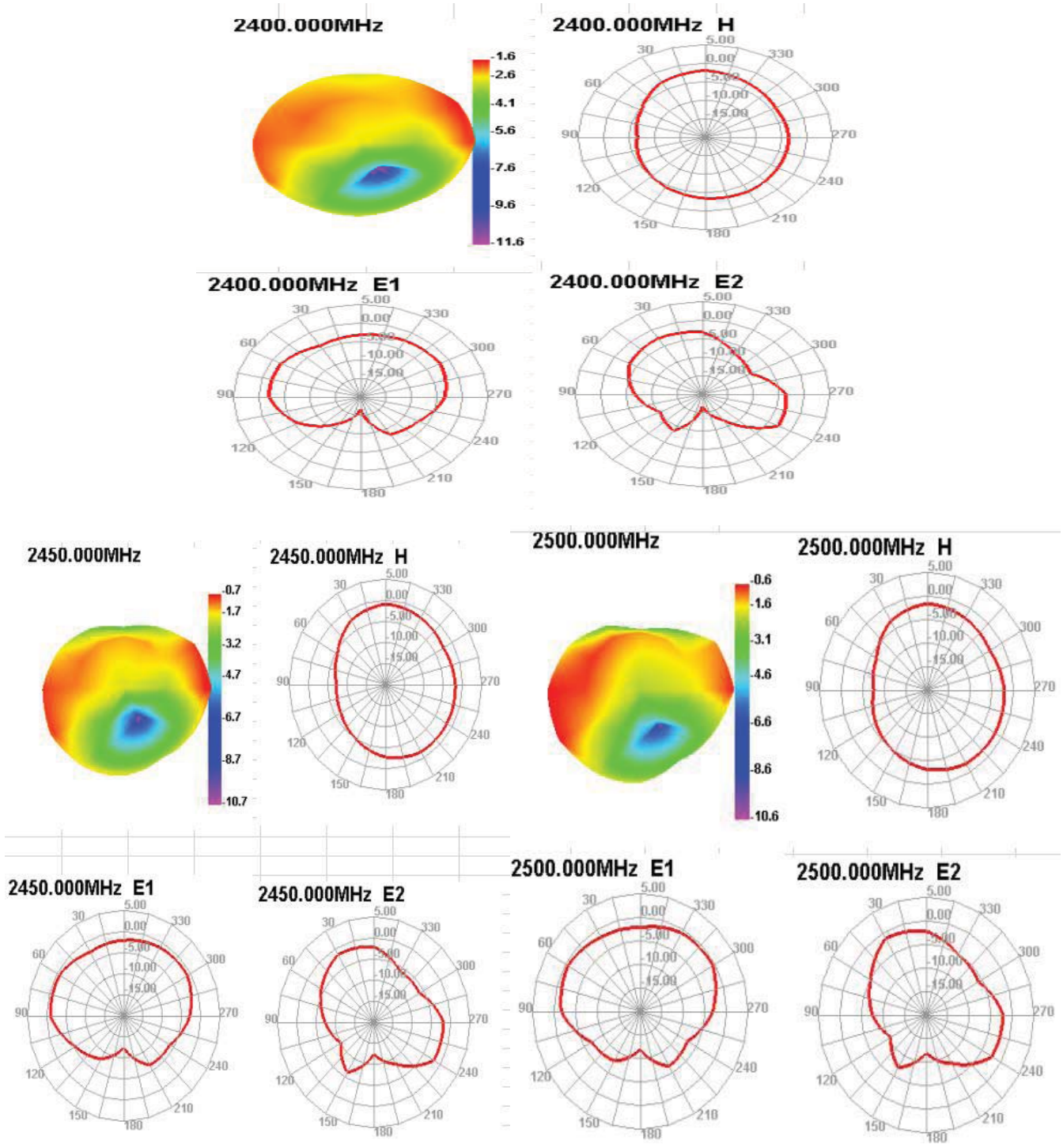
Antenna pattern



Measuring instruments: microwave darkroom, network analyzer, standard antenna.

Microwave darkroom description:

This is the microwave darkroom set up by our company in Shenzhen. This microwave darkroom belongs to a far-field measurement system. The size of the darkroom is 7.0m x 4.0m x 3.0m, and the size of the quiet zone is 15cm x 15cm x 15cm.

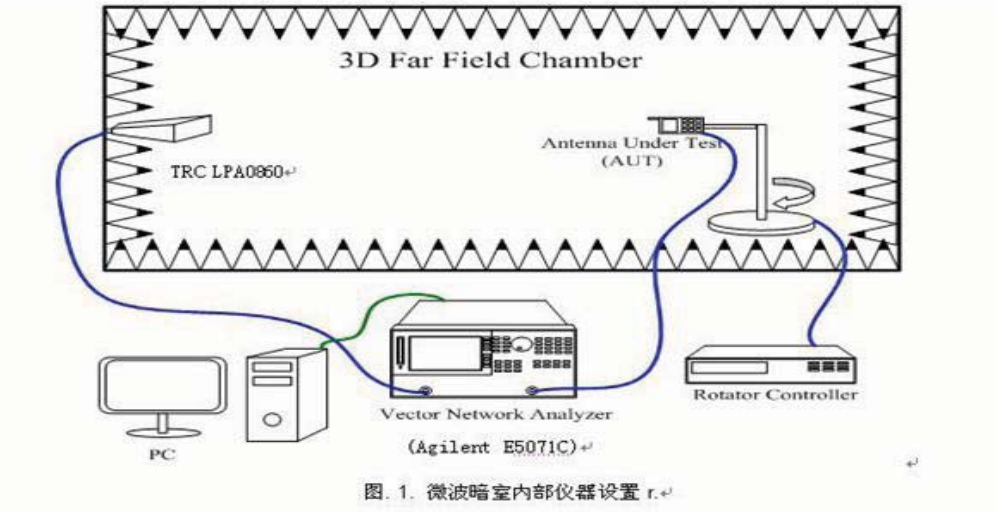


图. 1. 微波暗室内部仪器设置 r.

Figure 1 shows the instrument settings and network analyzer connection diagram in the microwave darkroom. The distance from the transmitting antenna (the transmitting antenna model used in this darkroom is TRC LPA0860 800MHZ-6GHZ) to the antenna under test (AUT) is 1.35 meters. The antenna under test is placed on a rotating platform. By controlling the rotation angle of the turntable, the antenna under test can be roughly and more accurately measured.

The antenna under test is placed on the rotating platform, and the 360-degree field strength data of each plane (ZY plane and ZX plane) is measured. Then the antenna under test is replaced with a standard dipole antenna (the standard dipole antenna model used in this darkroom is TRC AD series dipole antenna 800MHz ~2s00MHz) and its 360-degree field strength data is measured to convert the gain standard value. The gain value and radiation pattern of the antenna under test can be obtained through the conversion of formula 1.

$$G_{AUT} = G_{stand} + P_{AUT} - P_{stand}$$

G_{AUT} : Gain of AUT

G_{stand} : Gain of Standard Gain Antenna

P_{AUT} : Measured Power of AUT

P_{stand} : Measured Power of Standard Gain Antenna